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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/519,180	08/18/2005	Don W. Cochran	PSSZ 200074US	5253
7590 11/21/2007 Richard J Minnich Fay Sharpe Fagan Minnich & McKee 7th Floor 1100 Superior Avenue Cleveland, OH 44114-2579			EXAMINER LUU, THANH X	
			ART UNIT 2878	PAPER NUMBER
			MAIL DATE 11/21/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/519,180	Applicant(s) COCHRAN ET AL.	
	Examiner Thanh X. Luu	Art Unit 2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 September 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7, 9 and 11-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 5 and 11-13 is/are rejected.
- 7) ☒ Claim(s) 3, 4, 7, 9 and 15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 February 2007 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>09/26/2007</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on September 14, 2007 has been entered.

Claims 1-5, 7, 9 and 11-15 are currently pending.

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the diffusers being front lit; a second location; and an inverse engineered illumination pattern must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

2. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for

consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 2, 5 and 11-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Cochran et al. (U.S. Patent 4,882,498), hereinafter, Cochran '498.

5. Regarding claims 1, 2, 5 and 11-13, Cochran '498 disclose (see Figs.) a system for providing illuminated fields within an automated visual inspection system, comprising: a patterned illuminator (10) configured to provide spatially-adjacent regions of uniform, diffuse lighting and lighting voids (areas where LEDs are missing) to produce engineered illumination fields; a receiver aperture (lens of a camera 36) positioned to receive light generated by the patterned illuminator which has scattered or reflected off a part under inspection (20); and a transport mechanism (conveyor) used to automatically convey and position parts under inspection within the engineered illumination fields generated by the patterned illuminator. Cochran '498 also disclose

(see Figs.) a camera (36) and a processor (50), LEDs (10) and pulsing (48) as claimed. As understood, the pattern created is a series of annular regions (see Fig. 4).

Regarding claim 14, Cochran '498 disclose (see Figs.) a method of illuminating a part under inspection within an automated visual inspection system, the method comprising steps of: positioning a part under inspection (20) using a transport mechanism (conveyor) at a selected location relative to a patterned illuminator comprising light emitting diodes (LEDs) wherein illumination fields of the illuminator are selectively activated (see col. 5, lines 60-66) in an alternating on/off manner to produce an engineered illumination pattern; illuminating the part under inspection using the engineered illumination pattern produced by the patterned illuminator; and analyzing (with 50) light generated by the patterned illuminator that has subsequently reflected or scattered off the part under inspection for the purpose of deducting quality status information related to the part.

6. Claims 1 and 11-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Cochran et al. (U.S. Patent 5,072,127), hereinafter, Cochran '127.

Regarding claims 1 and 11-13, Cochran '127 disclose (see Figs.) a system for providing illuminated fields within an automated visual inspection system, comprising: a patterned illuminator (18) configured to provide spatially-adjacent regions of uniform, diffuse lighting (26) and lighting voids (when subsets of LEDs are off) to produce engineered illumination fields; a receiver aperture (at 32) positioned to receive light generated by the patterned illuminator which has scattered or reflected off a part under inspection (40); and a transport mechanism (12) used to automatically convey and

position parts under inspection within the engineered illumination fields generated by the patterned illuminator. The LEDs are pulsed and the camera is a 2D image generating device as claimed.

Regarding claim 14, Cochran '127 disclose (see Figs.) a method of illuminating a part under inspection within an automated visual inspection system, the method comprising steps of: positioning a part under inspection (40) using a transport mechanism (12) at a selected location relative to a patterned illuminator comprising light emitting diodes (LEDs 18) wherein illumination fields of the illuminator are selectively activated (see col. 3, lines 15-20) in an alternating on/off manner to produce an engineered illumination pattern; illuminating the part under inspection using the engineered illumination pattern produced by the patterned illuminator; and analyzing (with B and E) light generated by the patterned illuminator that has subsequently reflected or scattered off the part under inspection for the purpose of deducting quality status information related to the part.

Allowable Subject Matter

7. Claims 3, 4, 7, 9 and 15 are objected to as being dependent upon a rejected base claim, but would be allowable once the 112 rejections are overcome and if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

8. Applicant's arguments filed September 14, 2007 have been fully considered but they are not persuasive.

9. Applicant asserts that the prior art does not disclose the claimed illuminator because areas 91 and 93 shown in Fig. 3 are not taught. Examiner disagrees. Examiner reminds Applicant that it is the claims that are patentable not the figures. Furthermore, as understood, the LED illuminator of the prior art reads on the broad language of the claims. At portions where the LEDs are not present, inherently, there are lighting voids. Or at the time when the LEDs are not activated, there are lighting voids. Clearly, the areas where the LEDs are present or activated form diffuse lighting adjacent to such voids. Still further, the LED illuminator of the prior art is set up in the same manner as Applicant's Fig. 6. It is unclear how there are lightning voids in Fig. 6, but not in the prior art.

Thus, as set forth above, this rejection is proper.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh X. Luu whose telephone number is 571-272-2441. The examiner can normally be reached on M-F 6:00AM-3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on 571-272-2328. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Thanh X Luu/
Primary Examiner
Art Unit 2878

11/2007